

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 to 54 (Cancelled).

55. (Currently Amended) An end cap for a filter device comprising:

a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a fluid flow path in a first generally axial direction; and

at least one curved member extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first generally axial direction and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

56. (Previously Presented) The end cap of claim 55, wherein the filter device is a dialyzer.

57. (Previously Presented) The end cap of claim 56, wherein the end cap is attachable to a casing of the dialyzer.

58. (Previously Presented) The end cap of claim 55, wherein the channel is a blood inlet channel.

59. (Previously Presented) The end cap of claim 56, wherein the first direction is a direction that is non-radial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

60. (Previously Presented) The end cap of claim 59, wherein the first direction is a direction that is axial relative to the direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

61. (Previously Presented) The end cap of claim 56, wherein the second direction is a direction that is radial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

62. (Previously Presented) The end cap of claim 55, wherein the at least one member is arranged circumferentially around the channel.

63. (Previously Presented) The end cap of claim 55, wherein the at least one member extends towards a perimeter of the interior chamber of the end cap.

64. (Previously Presented) The end cap of claim 55, wherein the at least one member is arranged such that the second direction of the fluid flow path defines an essentially radially symmetrical pattern.

65. (Previously Presented) The end cap of claim 55, wherein the at least one member is integrally formed with the end cap.

66. (Previously Presented) The end cap of claim 55, wherein the at least one member is curved.

67. (Previously Presented) The end cap of claim 55, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other.

68. (Currently Amended) An end cap for a filter device comprising:

a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a fluid flow path in a first direction; and

at least one member located within the interior chamber of the end cap and extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first direction, the at least one member defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other, and wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

69. (Currently Amended) A filter device comprising:

a casing for housing a filter element;

an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a fluid flow path in a first generally axial direction, and at least one curved member extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first generally axial direction and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

70. (Previously Presented) The filter device of claim 69, wherein the filter device is a dialyzer.

71. (Previously Presented) The filter device of claim 69, wherein the channel is a blood inlet channel.

72. (Previously Presented) The filter device of claim 70, wherein the filter element is a hollow fiber bundle.

73. (Previously Presented) The filter device of claim 72, wherein the first direction is a direction that is non-radial relative to a direction defined by the hollow fiber bundle when the hollow fiber bundle is located in an interior chamber of the dialyzer.

74. (Previously Presented) The filter device of claim 72, wherein the first direction is a direction that is axial relative to the direction defined by the hollow fiber bundle when the hollow fiber bundle is located in an interior chamber of the dialyzer.

75. (Previously Presented) The filter device of claim 72, wherein the second direction is a direction that is radial relative to a direction defined by the hollow fiber bundle when the hollow fiber bundle is located in an interior chamber of the dialyzer.

76. (Previously Presented) The filter device of claim 69, wherein the at least one member is arranged circumferentially around the channel.

77. (Previously Presented) The filter device of claim 69, wherein the at least one member extends towards a perimeter of the interior chamber of the end cap.

78. (Previously Presented) The filter device of claim 69, wherein the at least one member is arranged such that the second direction of the fluid flow path defines an essentially radially symmetrical pattern.

79. (Previously Presented) The filter device of claim 69, wherein the at least one member is integrally formed with the end cap.

80. (Previously Presented) The filter device of claim 69, wherein the at least one member is curved.

81. (Previously Presented) The filter device of claim 69, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other.

82. (Currently Amended) A filter device comprising:

a casing for housing a filter element;

an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a fluid flow path in a first direction, and at least one member located within the interior chamber of the end cap and extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first direction, the at least one member defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other, and wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

83. (Currently Amended) An end cap for a filter device comprising:

a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap; and

at least one member extending away from an interior surface of the end cap that is adjacent to the channel in a generally axial direction that is the same as a generally axial direction of fluid entering the end cap via the channel and located within the interior chamber of the end cap, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap.

84. (Previously Presented) The end cap of claim 83, wherein the filter device is a dialyzer.

85. (Previously Presented) The end cap of claim 84, wherein the end cap is attachable to a casing of the dialyzer.

86. (Previously Presented) The end cap of claim 83, wherein the channel is a blood inlet channel.

87. (Previously Presented) The end cap of claim 83, wherein a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first direction.

88. (Previously Presented) The end cap of claim 84, wherein the first direction is a direction that is non-radial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

89. (Previously Presented) The end cap of claim 84, wherein the first direction is a direction that is axial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

90. (Previously Presented) The end cap of claim 83, wherein the at least one member is arranged circumferentially around the channel.

91. (Previously Presented) The end cap of claim 83, wherein the at least one member extends towards a perimeter of the interior chamber of the end cap.

92. (Previously Presented) The end cap of claim 83, wherein the at least one member is arranged such that the second direction of the fluid flow path defines an essentially radially symmetrical pattern.

93. (Previously Presented) The end cap of claim 83, wherein the at least one member is integrally formed with the end cap.

94. (Previously Presented) The end cap of claim 83, wherein the at least one member is curved.

95. (Previously Presented) The end cap of claim 83, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other.

96. (Currently Amended) An end cap for a filter device comprising:

a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap in a first direction; and

at least one member located within the interior chamber of the end cap and extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first direction, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other, and wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

97. (Currently Amended) A filter device comprising:

a casing for housing a filter element;

an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, the channel defining a fluid flow path in a first generally axial direction, and at least one member extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first generally axial direction and located within the interior chamber of the end cap, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap.

98. (Previously Presented) The filter device of claim 97, wherein the filter device is a dialyzer.

99. (Previously Presented) The filter device of claim 97, wherein the channel is an inlet channel.

100. (Previously Presented) The filter device of claim 97, wherein the filter element is a hollow fiber bundle.

101. (Previously Presented) The filter device of claim 97, wherein a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first direction.

102. (Previously Presented) The filter device of claim 101, wherein the first direction is a direction that is non-radial relative to a direction defined by a hollow fiber bundle positionable in an interior chamber of the dialyzer.

103. (Previously Presented) The filter device of claim 98, wherein the first direction is a direction that is axial relative to a direction defined by the hollow fiber bundle when the hollow fiber bundle is located in an interior chamber of the dialyzer.

104. (Previously Presented) The filter device of claim 97, wherein the at least one member is arranged circumferentially around the channel.

105. (Previously Presented) The filter device of claim 97, wherein the at least one member extends towards a perimeter of the interior chamber of the end cap.

106. (Previously Presented) The filter device of claim 97, wherein the at least one member is integrally formed with the end cap.

107. (Previously Presented) The filter device of claim 97, wherein the at least one member is curved.

108. (Previously Presented) The filter device of claim 97, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other.

109. (Currently Amended) A filter device comprising:
a casing for housing a filter element;

an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, the channel defining a fluid flow path in a first direction, and at least one member located within the interior chamber of the end cap and extending away from an interior surface of the end

cap that is adjacent to the channel in a direction that is the same as the first direction, the at least one member, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap, wherein the end cap includes at least two members, respective portions of the members being spaced equidistantly relative to each other, and wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

110. (Currently Amended) A hemodialyzer device comprising:
a casing forming a housing, the casing having a blood outlet channel;
a hollow fiber bundle stored within the casing;
an end cap attachable to the casing, the end cap including a blood inlet channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, the channel defining a fluid flow path in a first generally axial direction, and a plurality of curved members extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first generally axial direction and located within the interior chamber of the end cap, the at least one member defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

111. (Previously Presented) The hemodialyzer device of claim 110, wherein a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first direction.

112. (Previously Presented) The hemodialyzer device of claim 111, wherein the first direction is a direction that is non-radial relative to the casing.

113. (Previously Presented) The hemodialyzer device of claim 112, wherein the first direction is a direction that is axial relative to the casing.

114. (Previously Presented) The hemodialyzer device of claim 110, wherein the second direction is a direction that is radial relative to the casing.

115. (Previously Presented) The hemodialyzer device of claim 110, wherein the plurality of members are arranged circumferentially around the channel.

116. (Previously Presented) The hemodialyzer device of claim 110, wherein the plurality of members extend towards a perimeter of the interior chamber of the end cap.

117. (Previously Presented) The hemodialyzer device of claim 110, wherein the plurality of members are arranged such that the second direction of the fluid flow path defines an essentially radially symmetrical pattern.

118. (Previously Presented) The hemodialyzer device of claim 110, wherein the plurality of members are integrally formed with the end cap.

119. (Previously Presented) The hemodialyzer device of claim 110, wherein respective portions of each one of the plurality of members are spaced equidistantly relative to each other.

120. (Currently Amended) A hemodialyzer device comprising:
a casing forming a housing, the casing having a blood outlet channel;
a hollow fiber bundle stored within the casing;
an end cap attachable to the casing, the end cap including a blood inlet channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, the channel defining a fluid flow path in a first direction, and a plurality of curved members located within the interior chamber of the end cap and extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first direction, the at least one member defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction, wherein respective portions of each one of the plurality of members are spaced equidistantly relative to each other, and wherein the distance between respective portions of adjacent members decreases in the second direction of flow.

121. (Currently Amended) A method for filtering a fluid, comprising the steps of:
passing the fluid through a filter device, the filter device including a casing for housing a filter element and an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a fluid flow path in a first generally axial direction, and at least one curved member extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first generally axial direction and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

122. (Previously Presented) The method of claim 121, wherein the step of passing the fluid through the filter device involves passing blood through the filter device.

123. (Previously Presented) The method of claim 122, wherein the step of passing blood through the filter device involves passing blood through a dialyzer.

124. (Currently Amended) A method for filtering a fluid, comprising the steps of:

passing the fluid through a filter device, the filter device including a casing for housing a filter element and an end cap attachable to the casing, the end cap including a channel providing fluid communication in a generally axial direction from an exterior of the end cap to an interior chamber of the end cap, and at least one member defined by an interior surface of, and located within, the interior chamber of the end cap, the interior surface being adjacent to the channel, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap.

125. (Previously Presented) The method of claim 124, wherein the step of passing the fluid through the filter device involves passing blood through the filter device.

126. (Previously Presented) The method of claim 125, wherein the step of passing blood through the filter device involves passing blood through a dialyzer.